APPENDIX B

AVAILABLE MICROCOMPUTER PROGRAMS

This appendix describes briefly computer programs, available to the general public, that perform hydraulic analyses applicable to the types of problems presented in this manual. The programs are designed to run on IBM compatible microcomputers. This list is not intended to be exhaustive. The information given on the programs are derived from the information provided by the software vendors. This information has not been verified, nor is the inclusion of a program in this listing an endorsement by the U.S. Government. Persons desiring computer programs should contact the vendor directly to determine if the program is suitable for the intended usage, the pricing of the programs and the method of procurement (i.e., purchase or leasing).

HYDRAULIC TRANSIENT ANALYSIS
Program name: P TRANS
Company: Pipeline Hydraulics Engineering, Inc.
    1301 NW Freeway, Suite 310
    Houston, Texas 77040
Description: The following analyses are routinely conducted:
    1. Pump Start-Up and Failure
    2. Valve Closure
    3. Check Valve Slam
    4. Control Valve Operation
    5. Surge Relief Valve Sizing
    6. Surge Relief Packaging Design
    7. Resonance Studies
Program Name: LIQT Service
Company: Stone Associates, Inc./DRGM, Incorporated
    5177 Richmond Avenue #1075
    Houston, TX 77056-6736
Description: Simulation of transient (unsteady) flow in piping systems carrying liquids.

PIPE NETWORK FLOW ANALYSIS
Program Name: KYPIPES
Company: Haestad Methods, Inc.
    37 Brookside Road
    Waterbury, CT 06708
Theory Supported by:
    Don J. Wood
    Department of Civil Engineering
    University of Kentucky
    Lexington, Kentucky
Description: The program models water distribution systems. The pipe network system is defined with input data for pipes, fixed grade nodes, pressure relief valves, pressure switches, pumps, and storage tanks. Pumps can be installed anywhere in the network and are described by entering three operating points for discharge versus head. It can model extended period simulation for the entire system by making system changes including turning pumps on and off.
Program Name: CYBERNET
Company: Haestad Methods, Inc.
    37 Brookside Road
    Waterbury, CT 06708

Description: Pressure flow distribution modeling, computer aided design. CYBERNET is compatible with KYPIPES and is a comprehensive modeling tool that integrates AutoCad with advanced mapping and graphics extensions. Will adjust pressure contour to account for elevations of the surrounding terrain, yielding an accurate prediction of available pressures throughout the system.

ENERGY EFFICIENCY

Design engineers may obtain information on available computer programs on energy efficiency at water pump stations from a report entitled "A Computer Program for Optimal Control of Water Supply Pump Stations: Development and Testing", by D.V. Chase, CERL TR-N-90/14, August 1990, ADA226689. The report can be purchased from the National Technical Information Service, Springfield, Virginia 22161.

COMPUTER PROGRAMS FOR DISTRICT ENGINEERS

Information on computer programs and services available for hydraulic analysis of water distribution systems may be obtained from the CADD Center at Department of the Army, Waterways Experimental Station (WES), Corps of Engineers, P.O. Box 631, Vicksburg, Mississippi 39180-0631.